

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Cancel claims 1 and 2.

3. (Previously Presented) The immunogen according to claim 16 wherein said ligand is an antibody, or Fab₂ or Fab fragment thereof.

4. (Previously Presented) The immunogen according to claim 28 wherein said ligand binds to a CCR5 binding site on gp120 and upregulates a CD4 binding site on gp120.

5. (Original) The immunogen according to claim 4 wherein said ligand is an antibody, or Fab₂ or Fab fragment thereof.

6. (Original) The immunogen according to claim 4 wherein said ligand is monoclonal antibody (mab) 17b, or Fab₂ or Fab fragment thereof, or mimic thereof.

7. (Previously Presented) The immunogen according to claim 16 wherein said ligand upregulates a CCR5 and a CD4 binding site on gp120.

8. (Original) The immunogen according to claim 7 wherein said ligand is an antibody, or Fab₂ or Fab fragment thereof.

9. (Original) The immunogen according to claim 7 wherein said ligand binds to a site on gp120 to which mab A32 binds.

10. (Original) The immunogen according to claim 9 wherein said ligand is mab A32, or Fab₂ or Fab fragment thereof, or mimic thereof.

11. (Previously Presented) The immunogen according to claim 16 wherein said protein and said ligand are crosslinked.

12. (Previously Presented) The immunogen according to claim 16 wherein said protein is in soluble form.

13. (Previously Presented) The immunogen according to claim 16 wherein said protein is associated with a cell vesicle or liposome.

Cancel claims 14 and 15.

16. (Previously Presented) An isolated immunogen comprising an HIV envelope protein bound to a ligand, which ligand upregulates at least one of the CD4 binding site and the CCR5 binding site on said protein,

wherein said immunogen further comprises an HR-2 peptide bound to said protein.

17. (Previously Presented) The immunogen according to claim 16 wherein said protein, said ligand and said HR-2 peptide are crosslinked.

18. (Previously Presented) A composition comprising at least one immunogen according to claim 16 and a carrier.

Cancel claims 19-27.

28. (Previously Presented) The immunogen according to claim 16 wherein said protein is gp120 or uncleaved gp140.

29. (Previously Presented) The immunogen according to claim 16 wherein said HR-2 peptide is DP178 or T649Q26L.

30. (Previously Presented) A method of inducing the production of antibodies to HIV in a mammal comprising administering to said mammal an amount of said immunogen according to claim 16 sufficient to effect said induction.

31. (Previously Presented) An isolated immunogen comprising an HIV envelope protein bound to a ligand, which ligand upregulates at least the CD4 binding site on said protein, wherein said protein comprises gp120, and wherein said immunogen further comprises an HR-2 peptide directly bound to gp120 at a CD4 inducible site.

32. (Previously Presented) The immunogen according to claim 31 wherein said protein, said ligand and said HR-2 peptide are crosslinked.

33. (Previously Presented) The immunogen according to claim 31 wherein said protein is gp120 or uncleaved gp140.

34. (Previously Presented) The immunogen according to claim 31 wherein said ligand is an antibody, or Fab₂ or Fab fragment thereof.

35. (Previously Presented) The immunogen according to claim 31 wherein said ligand binds to a site on gp120 to which mab A32 binds.

36. (Previously Presented) The immunogen according to claim 31 wherein said ligand is mab A32, or Fab₂ or Fab fragment thereof, or mimic thereof.

37. (Previously Presented) The immunogen according to claim 31 wherein said protein is in soluble form.

38. (Previously Presented) The immunogen according to claim 31 wherein said protein is associated with a cell vesicle or liposome.

39. (Previously Presented) The immunogen according to claim 31 wherein said HR-2 peptide is DP178 or T649Q26L.

40. (Previously Presented) A composition comprising at least one immunogen according to claim 31 and a carrier.

41. (Previously Presented) A method of inducing the production of antibodies to HIV in a mammal comprising administering to said mammal an amount of said immunogen according to claim 31 sufficient to effect said induction.